



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,159	08/18/2003	Otman A. Basir	60,449-079	3564

26096 7590 11/23/2005

CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009

EXAMINER

RUTLAND WALLIS, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

2835

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,159

Applicant(s)

BASIR ET AL.

Examiner

Michael Rutland-Wallis

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/13/2003 + 12/19/03 + 04/14/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claims 8 and 22 state the limitation "manual contact area" it is unclear to the office what is meant by a manual contact area it is therefore interpreted by the examiner of record to mean any location in the vehicle which may be manually contacted by the user. If a meaning other than the interpretation above by the examiner is intended it is required to be expressly defined and supported by the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 12, 15, 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Pavatich (U.S. Pat. No. 6,429,782).

With respect to claim 1 Pavatich teaches user-activated switch device comprising an electrode forming part of a capacitor (column 1 lines 42-45). Pavatich teaches a contact area outside of a waterproof membrane in figure 1 item 13 located adjacent the electrode which defines the permittivity of the switch device. Pavatich teaches a

Art Unit: 2835

detector which monitors changes in the capacitance of the switch device (column 1 line 45) and activating a switch based upon the measured capacitance (column 1 lines 45-48) where signals are sent to a switch see column 2 lines 54-55.

With respect to claim 2 Pavatich teaches electrode is in a vehicle (column 1 lines 5-10) or see column 1 lines 56-57 where Pavatich teaches mounting the arrangement to a vehicle door handle.

With respect to claim 12 Pavatich teaches a method for determining a presence of a user hand (see Fig. 1 and column 3 lines 1-3). Pavatich teaches as the hand approaches variations in capacitance are detected (column 3 lines 3-5) which are caused from the hands changing the permittivity of the contact area. Pavatich also teaches activating a switch based upon the measured capacitance (column 1 lines 45-48) where signals are sent to a switch see column 2 lines 54-55.

With respect to claims 15 and 18 Pavatich teaches a vehicle accessory (vehicle door handle) is activated by the switch see column 3 lines 33-35.

With respect to claim 17 Pavatich teaches the switch (item 10) to be activated a users hand must be manually placed in the contact area where in can be detected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2835

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 7, 10-11, 13-14, 16, 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pavatich (U.S. Pat. No. 6,429,782) in view of Neuman et al (U.S. Pat No. 5,942,815).

With respect to claims 3 and 4 Pavatich does not teach the electrode is located on a steering wheel or that the system is used for activating a vehicle horn. Neuman teaches a capacitive vehicle horn switch located on a vehicle steering wheel (Fig. 1), while Neuman's system utilizes a flexible capacitor instead of a touch sensitive capacitor it would be obvious to one of ordinary skill in the art at the time of the invention to use Pavatich's touch system to activate a vehicle horn instead in order to reduce manufacturing costs and increase the reliability.

With respect to claim 7 and 13 Pavatich teaches his system may be implemented to monitor the rate of changes of frequency characteristics (column 3 lines 25-31). Pavatich does not teach tracking the rate of change of the capacitance to activate the switch. Neuman teaches monitoring the quick rate of change instead of slower changes such as environmental changes as taught in Pavatich in capacitance in order to activate a vehicle horn (column 5 lines 15-30 and seen in Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pavatich to monitor for a rate of change in the capacitance in order to sense the presence of user's hand entering or leaving the area.

With respect to claim 10 and 21 as understood by the examiner of record the limitation "power device" interpreted as any device, which operates using electrical

Art Unit: 2835

power. Pavatich is silent on the deactivation or the turning off when the users hand is not present. Neuman teaches a system for activating a horn based on the changes in capacitance when the user's hands pressure is applied to the plate and the horn is stopped after the users hand is removed. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pavatich's switching device to operate in a similar fashion if in fact Pavatich's system does not already act in such a way in order to turn off or deactivate the switch or device associated with electrode.

With respect to claim 11 Pavatich teaches electrode is in a vehicle (column 1 lines 5-10) or see column 1 lines 56-57 where Pavatich teaches mounting the arrangement to a vehicle door handle where a user's hand would grip.

With respect to claim 14, 16 and 20 Pavatich does not teach the use of the user-activated switch to be used with a vehicle horn. Neuman teaches a capacitive vehicle horn switch located on a vehicle steering wheel (Fig. 1), while Neuman's system utilizes a flexible capacitor instead of a touch sensitive capacitor it would be obvious to one of ordinary skill in the art at the time of the invention to use Pavatich's touch system to activate a vehicle horn instead in order to reduce manufacturing costs and increase the reliability.

With respect to claim 22 Pavatich teaches as the hand approaches variations in capacitance are detected (column 3 lines 3-5) which are caused from the hands changing the capacitance of the contact area.

With respect to claim 23 Pavatich teaches capacitive portion is in a vehicle (column 1 lines 5-10) or see column 1 lines 56-57 where Pavatich teaches mounting the arrangement to a vehicle door handle where a user's hand would grip.

With respect to claim 24 Pavatich teaches user-activated switch device comprising an electrode forming part of a capacitor (column 1 lines 42-45). Pavatich teaches a contact area outside of a waterproof membrane in figure 1 item 13 located adjacent the electrode where the user positions their hand. Pavatich teaches a detector which monitors changes in the capacitance of the switch device (column 1 line 45) and activating a switch based upon the measured capacitance (column 1 lines 45-48) where signals are sent to a switch see column 2 lines 54-55. Pavatich does not teach the system is used for activating a vehicle horn. Neuman teaches a capacitive vehicle horn switch located on a vehicle steering wheel (Fig. 1), while Neuman's system utilizes a flexible capacitor instead of a touch sensitive capacitor it would be obvious to one of ordinary skill in the art at the time of the invention to use Pavatich's touch system to activate a vehicle horn instead in order to reduce manufacturing costs and increase the reliability.

With respect to claim 25 as applicant's specification defines a bridge circuit on page 5 lines 2-12 a bridge circuit is two signal lines, which input in to the differential amplifier. Pavatich does teach one signal line (item 7) for measuring the capacitance of the switching device and another line in the differential amplifier (comparator item 8) to compare with a predetermined threshold (column 3 lines 5-15) and then using the

output of the differential amplifier (comparator item 8) to activate a mechanical switch (column 2 lines 54-55) which may be used to activate a vehicle horn as see in Neuman.

With respect to claim 26 Pavatich teaches the capacitor is part of an oscillator (Fig. 1 item 5) oscillating at a first frequency when no hand is present adjacent the electrode and at a second frequency different from the first frequency when the hand is adjacent the electrode (see column 3 lines 2-7 Pavatich teaches a decrease in oscillator frequency), the detection circuit (Fig. 1 item 8 comparator alternatively see column 1 line 45) which sends a signal to the controller to activate the device or switch connected. Pavatich does not teach the system is used for activating a vehicle horn. Neuman teaches a capacitive vehicle horn switch located on a vehicle steering wheel (Fig. 1), while Neuman's system utilizes a flexible capacitor instead of a touch sensitive capacitor it would be obvious to one of ordinary skill in the art at the time of the invention to use Pavatich's touch system to activate a vehicle horn instead in order to reduce manufacturing costs and increase the reliability.

With respect to claim 27 Pavatich teaches a contact area outside of a waterproof membrane in figure 1 item 13 located adjacent the electrode which defines the permittivity of the capacitor in the switch device. As the presence of the hand located near the capacitor changes the permittivity.

Claim 5-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pavatich (U.S. Pat. No. 6,429,782).

With respect to claim 5 as applicant's specification defines a bridge circuit on page 5 lines 2-12 a bridge circuit is two signal lines, which input in to the differential

Art Unit: 2835

amplifier. Pavatich does teach one signal line (item 7) for measuring the capacitance of the switching device and another line in the differential amplifier (comparator item 8) to compare with a predetermined threshold (column 3 lines 5-15) and then using the output of the differential amplifier (comparator item 8) to activate a mechanical switch (column 2 lines 54-55).

With respect to claim 6 Pavatich teaches an oscillator (Fig. 1 item 5) exciting the bridge circuit.

With respect to claim 8 Pavatich teaches a contact area is outside of a waterproof membrane in figure 1 item 13 located adjacent the electrode seen in figure 1.

With respect to claim 9 Pavatich teaches mounting the arrangement to a vehicle door handle (column 1 lines 56-57).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pavatich (U.S. Pat. No. 6,429,782) in view of Nunn (U.S. Pat. No. 5,625,257). Pavatich teaches the device of claim 18 but does teach using the device in a vehicle light. Nunn teaches a lighting control system used in conjunction with a touch sensor (column 3 lines 39-45). While Nunn is silent on the detailed operation of the touch sensor, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the device of Pavatich as the touch switch operating the vehicle lights disclosed in Nunn in order to operate the lights easily and reduce manufacturing costs and increase the reliability.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ubelein et al. (U.S. Pat. No. 6,515,377) teaches control of various vehicle accessories which are controlled by capacitive switches, Palata et al. (U.S. Pat. No. 6,225,710) teaches a system similar to method claims of the instant application, Suyama et al. (U.S. Pat. No. 6,949,882) teaches a similar system for operation of vehicle light however does not meet the criteria to be considered prior art, Gifford et al. (U.S. Pub. No. 20050012484) teaches a capacitive sensor system for the control of vehicle accessories, Witney et al. (U.S. Pat. No. 4,323,829) teaches a capacitive control system and switching circuit it should also be noted by the applicant Witney's system is a vehicle system, Aoki et al. (U.S. Pat. No. 5,467,022) teaches in detail specifics of permittivity and capacitance control for operating switches, Haag et al. (U.S. Pat. No. 6,777,958) teaches a system similar to claims 1 and 12, Murao (U.S. Pat. No. 4,760,490) teaches a similar system of the claimed invention and is particular reference to the bridge circuit of claim 5, Pepper et al. (U.S. Pat. No. 4,778,951) teaches a similar system of claims 1 and 12 comprising a contact area and capacitance area connected to detection and controlling circuits as well as a bridge circuits.

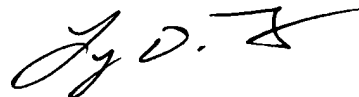
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

Art Unit: 2835

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRW



LYNN FEILD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800